

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL

(Nature of Service)

XD FX MO

(Class of Station)

WG2XOK

(Call Sign)

0104-EX-ML-2014

(File Number)

NAME Lockheed Martin Corporation

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(j) of the Commission's Rules

Station Locations

- (1) Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33
- (2) Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76-13-29
- (3) Bloomfield (HARTFORD), CT - NL 41-51-34; WL 72-42-34; MOBILE: Bloomfield, CT, within 100 km, centered around NL 41-51-34; WL 72-42-34
- (4) Blackstone (NOTTOWAY), VA - NL 37-02-30; WL 77-55-00; MOBILE: Blackstone, VA, within 10 km, centered around NL 37-02-30; WL 77-55-00
- (5) Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; WL 77-32-06
- (6) Cusseta (CHATTAHOOCHEE), GA - NL 32-22-14; WL 84-48-27; MOBILE: Cusseta, GA, within 100 km, centered around NL 32-22-14; WL 84-48-27

Frequency Information

Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	28M8G1W	1621810 W (ERP)	
29.5-30 GHz	FX	28M8G1W	50118 W (ERP)	

This authorization effective June 24, 2014 and
will expire 3:00 A.M. EST April 01, 2015

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	14M4G1W 7M20G1W 3M60G1W	50118 W (ERP)	
29.5-30 GHz	MO	14M4G1W	810905 W (ERP)	
29.5-30 GHz	MO	7M20G1W	405452 W (ERP)	
29.5-30 GHz	FX	3M60G1W	202726 W (ERP)	

Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	MO	28M8G1W 28M8G1W 28G8G1W 28M8G1W	1621810 W (ERP)	
29.5-30 GHz	FX	28M5G1W 14M4G1W 7M20G1W 3M60G1W	50118 W (ERP)	

Frequency Information

Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76-13-29

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	14M4G1W	810905 W (ERP)	
29.5-30 GHz	FX	7M20G1W	40542 W (ERP)	
29.5-30 GHz	FX	3M60G1W	202726 W (ERP)	

Bloomfield (HARTFORD), CT - NL 41-51-34; WL 72-42-34; MOBILE: Bloomfield, CT, within 100 km, centered around NL 41-51-34; WL 72-42-34

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	28M8G1W 28M8G1W 28M8G1W	1621810 W (ERP)	
29.5-30 GHz	MO	28M8G1W 14M4G1W 7M20G1W 3M60G1W	50118 W (ERP)	
29.5-30 GHz	FX	14M4G1W 7M20G1W	405452 W (ERP)	
29.5-30 GHz	FX	3M60G1W	202726 W (ERP)	

Frequency Information

Blackstone (NOTTOWAY), VA - NL 37-02-30; WL 77-55-00; MOBILE: Blackstone, VA, within 10 km, centered around NL 37-0

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	MO	28M8G1W 14M4G1W 7M20G1W 3M60G1W	1621810 W (ERP)	
29.5-30 GHz	FX	28M8G1W 14M4G1W 7M20G1W 3M60G1W	50118 W (ERP)	

Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; W

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	28M8G1W	1621810 W (ERP)	
29.5-30 GHz	FX	7M20G1W	405452 W (ERP)	
29.5-30 GHz	FX	14M4G1W	810905 W (ERP)	
29.5-30 GHz	FX	3M60G1W	202726 W (ERP)	
29.5-30 GHz	MO	28M8G1W 14M4G1W 7G20G1W	50118 W (ERP)	

Frequency Information

Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; W

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	MO	3M60G1W	50118 W (ERP)	

Cusseta (CHATTAHOOCHEE), GA - NL 32-22-14; WL 84-48-27; MOBILE: Cusseta, GA, within 100 km, centered around NL :

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	FX	28M8G1W 28M8G1W	1621810 W (ERP)	
29.5-30 GHz	FX	28M8G1W 14M4G1W 3G60G1W	50118 W (ERP)	
29.5-30 GHz	MO	7M20G1W	405452 W (ERP)	
29.5-30 GHz	FX	3M60G1W	202726 W (ERP)	
29.5-30 GHz	MO	14M4G1W 14M4G1W	810905 W (ERP)	

Special Conditions:

- (1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.
- (3) POINT OF COMMUNICATION: AMC-16.

Special Conditions:

- (4) The designated points-of-contact to terminate transmissions if interference occurs are: (607) 426-2525 and (607) 206-0097.
- (5) The licensee must maintain records of the following data for each operating earth station: location (latitude, longitude, altitude); aircraft attitude (pitch, yaw, roll); transmit frequency and occupied bandwidth; data rate; EIRP; and target satellite. This data must be recorded at intervals of no more than two minutes while an earth station is transmitting and every 30 seconds when aircraft roll angle is greater than 10 degrees. The licensee must also record instances when earth station pointing error exceeds 0.2 degrees. The licensee must make this data available upon request to a fixed-satellite service system operator or the Commission within 24 hours after receiving the request.
- (6) Operation of stations authorized herein are subject to any requirements the Commission may adopt in any future proceeding concerning operations in the 29.5-30.0 GHz band frequencies including, but not limited to, earth stations communicating with geostationary orbit space stations.
- (7) When operating in airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have an allocation in the 29.5-30.0 GHz frequency bands, the earth stations must not exceed the following EIRP limits: +64 dBW in any 1 MHz band for Θ is less than or equal to 0° +64 + $3^\circ\Theta$ dBW in any 1 MHz band for Θ is greater than 0° but less than or equal to 5° where Θ is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.
- (8) Operation in the territory or airspace of any country other than the United States must be in compliance with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.
- (9) Stations authorized herein must not be used to provide air traffic control communications.
- (10) Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.
- (11) OET Bulletin 65 (available on-line at www.fcc.gov/oet/lrfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm² in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm².